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WHAT IS CLAIMED IS:

A method of cleaving a fusion/protein including a first component which comprises all or part of a Caulobacter S-layer protein including a Caulobacter C-terminal secretion signal, and a second component heterologous to Caulobacter, the fusion protein containing at least one aspartate-proline dipeptide, wherein the method comprises combining the fusion protein with an acid solution of a strength insufficient to solubilize the fusion protein for a time sufficient for cleavage of the fusion protein at said aspartate-proline dipeptide.

- The method of claim 1 wherein a aspartate-proline dipeptide is situated between the 2. first and second components or adjacent a junction between the first and second components.
- The method of claim 1 or 2, wherein the acid solution has a pH of from about 1.5 to 15 3. about 2.5.
 - 4. The method of claim 1 or 2, wherein the acid solution has a pH of about 1.65 to about 2.35.
 - 5. The method of any one of claims 1-4 wherein the method is carried out at a temperature in the range of about 30° C. to about 50° C.
 - 6. The method of any one of claims 1-5, wherein the method further comprises separating products cleaved from the fusion protein. 25
 - A method of preparing a DNA construct for expression of a fusion protein suitable for 7. use in the method of claim 1, wherein the method comprises joining an upstream DNA segment including DNA heterologous to Caulobacter which encodes a protein

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of interest, to a downstream DNA segment including DNA for a <u>Caulobacter</u> C-terminal secretion signal, wherein the downstream DNA segment does not encode an aspartate-proline dipeptide, and wherein the upstream segment contains DNA encoding an aspartate-proline dipeptide at or near an end of said upstream segment to be joined to said downstream segment.

8. A method of preparing a fusion protein, comprising:

(1) expressing a DNA construct prepared as described in claim 7 in Caulobacter and,

(2) recovering said fusion/protein secreted by the Caulobacter.